

CLAIMS

What is claimed is:

1. A system to process data transactions in a data store including a plurality of databases, the system comprising:
 - a computer interface module to receive a data transaction request from at least one requesting computer;
 - a data store interface module to interface the system to the plurality of databases;
 - and
 - a data access layer to identify at least one database of the plurality of databases, data access layer being operatively in data communication with the computer interface module and the data store interface module and defining an abstraction layer between computer interface module and the data store interface module.
2. The system of claim 1, wherein the data transaction request is an object orientated request and the plurality of databases are horizontally distributed, the data access layer defining an object orientated abstraction layer between the computer interface module and the plurality of databases.
3. The system of claim 1, wherein the data access layer comprises a plurality of logical hosts and a plurality of physical hosts, wherein a logical host is derived from the data transaction request and mapped to a physical host that identifies at least one of the plurality of databases.
4. The system of claim 3, wherein the data access layer comprises at least one logical table and at least one physical table, a logical table being identified from the data transaction request and mapped to a physical table which identifies a corresponding logical host.
5. The system of claim 1, which comprises a data dependent routing module that generates a query to at least one of the plurality of databases that is identified based on content of the data in the data transaction request.

6. The system of claim 5, wherein the data dependent routing module identifies a data type from the data transaction request and maps the data transaction request to an associated physical host based on the at least one rule.
7. The system of claim 6, wherein the at least one rule includes at least one attribute that is used identify the physical host.
8. The system of claim 5, wherein data associated with a user is split across the plurality of databases and the data dependent routing module identifies at least one database with the user from the data transaction request.
9. The system of claim 5, wherein the data transaction request is an object orientated request and the data dependent routing module maps the object orientated request to a physical host that identifies an associated database of the plurality of databases.
10. The system of claim 1, which forms part of a network-based commerce facility and the data transaction requests are requests associated with items listed in the network-based commerce facility, the data transaction requests being communicated between any one of a plurality of client machines and the system via the Internet.
11. A method of processing data transactions in a data store including a plurality of databases, the method comprising:
 - receiving a data transaction request from at least one requesting computer;
 - using a data access layer that defines an abstraction layer to identify at least one database from the plurality of databases; and
 - communicating at least part of the data transaction to the at least one database identified.
12. The method of claim 11, wherein the data transaction request is an object orientated request and the plurality of databases are horizontally distributed, the method comprising defining an object orientated abstraction layer between the requesting computer and the plurality of databases.

13. The method of claim 11, wherein the data access layer comprises a plurality of logical hosts and a plurality of physical host, the method comprising deriving a logical host from the data transaction request and mapping the logical host to a physical host that identifies at least one of the plurality of databases.
14. The method of claim 13, wherein the data access layer comprises at least one logical table and at least one physical table, the method comprising identifying a logical table from the data transaction request and mapping the logical table to a physical table which identifies a corresponding logical host.
15. The method of claim 11, which comprises generating a query to a database that is identified based on content of the data in the data transaction request.
16. The method of claim 11, which comprises identifying a data type from the data transaction request and mapping the data transaction request to an associated database of the plurality of databases according to at least one rule.
17. The method of claim 16, which comprises optionally changing the at least one rule in real-time.
18. The method of claim 16, which comprises:
identifying if the data transaction request has an associated rule;
retrieving the associated rule when the data transaction request has a rule associated therewith; and
mapping the data transaction request to a physical host based on the associated rule.
19. The method of claim 18, in which mapping the data transaction request to a physical host includes:
mapping the data transaction request to a logical host based on the associated rule; and
mapping the logical host to a physical host identifying one of the plurality of databases.

20. The method of claim 16, wherein the at least one rule includes an attribute that is used identify a physical host.
21. The method of claim 11, wherein data associated with a user is split across the plurality of databases, the method comprising identifying at least one database associated with the user from the data transaction request.
22. The method of claim 11, wherein the data transaction request is an object-orientated request, the method comprising mapping the object-orientated request to a physical host that identifies an associated database of the plurality of databases.
23. The method of claim 11, which comprises determining if the identified database is down and, if so, mapping the data transaction request to and alternative database of the plurality of databases.
24. The method of claim 11, wherein the data transaction request is selected from the group consisting of a create transaction, a read transaction, an update transaction, and a delete transaction and the data access layer is programmable to define in which database of the plurality of databases the transaction is to be performed in.
25. The method of claim 11, which includes:
monitoring the status of the plurality of databases; and
using the data access layer to balance a load on the plurality of databases in response to the monitored status.
26. The method of claim 11, which comprises:
splitting a data transaction request to different databases of the plurality of databases; and
gathering results received from different databases and presenting them to the requesting computer.
27. A system to process data transactions in a data store including a plurality of databases, the system comprising:
means for receiving a data transaction request from at least one requesting computer;

means for using a data access layer that defines an abstraction layer to identify at least one database from the plurality of databases; and

means for communicating at least part of the data transaction to the at least one database identified.

28. The system of claim 27, wherein the data transaction request is an object orientated request and the plurality of databases are horizontally distributed, the data access layer defining an object orientated abstraction layer between the means for receiving a data transaction request and the plurality of databases.

29. The system of claim 27, which comprises data dependent routing means for generating a query to at least one of the plurality of databases that is identified based on content of the data in the data transaction request.

30. A machine-readable medium which comprises instructions that, when executed by a machine, cause the machine to:

receive a data transaction request from at least one requesting computer;

use a data access layer that defines an abstraction layer to identify at least one database from the plurality of databases; and

communicate at least part of the data transaction to the at least one database identified.